

IN THE CLAIMS:

1. (currently amended) A ~~multiple output buck converter with multiple outputs~~ including a primary output and at least one auxiliary output, comprising:
 - a transformer having a primary winding and at least one secondary winding;
 - a switch, coupled to said primary winding, configured to impress an input voltage across said transformer, a first DC output voltage configured to be provided at said primary output employing via a magnetizing inductance associated with said transformer as an inductor; and
 - an output inductor coupled to said at least one secondary winding, a second DC output voltage configured to be provided at said auxiliary output via said output inductor.
2. (original) The multiple output converter as recited in Claim 1 further comprising a rectifier coupled to said at least one secondary winding.
3. (original) The multiple output converter as recited in Claim 1 wherein said transformer comprises first and second secondary windings.
4. (original) The multiple output converter as recited in Claim 3 further comprising a synchronous rectifier having first and second synchronous rectifier switches coupled to one of said first and second secondary windings.
5. (original) The multiple output converter as recited in Claim 4 wherein said first and second synchronous rectifier switches are cross-coupled.
6. (original) The multiple output converter as recited in Claim 1 further comprising another switch coupled to said primary winding.

7. (original) The multiple output converter as recited in Claim 6 wherein said switch is configured to conduct for a primary duty cycle (D) and said another switch is configured to conduct for a complementary duty cycle (1-D).

8. (original) The multiple output converter as recited in Claim 7 wherein said primary duty cycle (D) of said switch is selected to provide at least one of substantial ripple cancellation associated with said multiple output converter and a substantially zero net DC bias across said transformer.

9. (original) The multiple output converter as recited in Claim 1 further comprising an output capacitor coupled to said primary winding.

10. (original) The multiple output converter as recited in Claim 1 further comprising an output capacitor coupled to said output inductor.

11. (currently amended) A method of operating a buck multiple-output converter with multiple outputs including a primary output and at least one auxiliary output, comprising:

providing a transformer having a primary winding and at least one secondary winding;

impressing an input voltage across said transformer with a switch coupled to said primary winding;

producing a first DC output voltage at said primary output employing ~~via~~ a magnetizing inductance associated with said transformer as an inductor; and

further producing a second DC output voltage at said auxiliary output via an output inductor coupled to said at least one secondary winding.

12. (original) The method as recited in Claim 11 further comprising providing a rectifier coupled to said at least one secondary winding.

13. (original) The method as recited in Claim 11 wherein said transformer comprises first and second secondary windings.

14. (original) The method as recited in Claim 13 further comprising providing a synchronous rectifier having first and second synchronous rectifier switches coupled to one of said first and second secondary windings.

15. (original) The method as recited in Claim 14 further comprising cross-coupling said first and second synchronous rectifier switches.

16. (original) The method as recited in Claim 11 wherein said impressing is performed in cooperation with another switch coupled to said primary winding.

17. (original) The method as recited in Claim 16 further comprising causing said switch to conduct for a primary duty cycle (D) and said another switch to conduct for a complementary duty cycle (1-D).

18. (original) The method as recited in Claim 17 wherein said primary duty cycle (D) of said switch is selected to provide at least one of substantial ripple cancellation associated with said multiple output converter and a substantially zero net DC bias across said transformer.

19. (original) The method as recited in Claim 11 further comprising filtering said first output voltage with an output capacitor coupled to said primary winding.

20. (original) The method as recited in Claim 11 further comprising filtering said second output voltage with an output capacitor coupled to said at least one secondary winding.